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LECTURES

UPON

DISEASES OF THE MIND

DELIVERED AT THE

COLLEGE OF PHYSICIANS AND SURGEONS

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BY

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PREFACE.

THIS synopsis of lectures upon diseases of the mind has been prepared for the use of the students of the College of Physicians and Surgeons.

In the presentation of the subject the method of Krafft-Ebing in his "Lehrbuch der Psychiatrie" has been followed.

The attempt is made to study mental processes in connection with the symptoms of insanity, and to show that the action of a deranged mind differs not so much in kind as in origin and degree from that of the sane mind.

The forms of insanity are then described, Meynert's classification being adopted. The causes which lead to mental disease, the data which bear upon its prognosis, and the proper means for the care of the patient, are considered. And, finally, some account is given of the proper method of examining a person suspected of lunacy, and of the legal measures necessary in New York to his commitment to an asylum if insane.

To those to whom Krafft-Ebing's work and Meynert's lectures (which have unfortunately not yet been translated) may be inaccessible, the works of Bevan Lewis, "A Text-book of Mental Diseases," of Mercier, "Sanity and Insanity," of Spitzka, "Insanity," and of William James, "Psychology," are recommended.

M. ALLEN STARR.

March, 1891.

INSANITY.

THE study of insanity implies a knowledge of the normal action of the mind, and includes a consideration of abnormal mental action, of the symptoms which indicate mental derangement, of the forms which that derangement may take, of the causes which produce it, of the prospect of recovery, and of the appropriate care of the sufferer.

The physical basis of all mental action is the cerebral cortex with its association fibres ; for its extent, thickness, and blood supply determine the mental capacity of the species, of various races, and of single individuals ; and its disease or defect causes insanity or idiocy.

The functions of the cortex are : (a) To receive impressions from the sensory organs, which the mind knows as conscious perceptions. (b) To group these impressions into a unit, which the mind knows as a concept. (c) To retain the concepts, so that the mind can recognize and recall them in memory, or form new combinations between them in imagination, or group them systematically in logical thought. (d) To give expression to thought in speech and in action. (e) To feel the emotional excitement attendant upon these mental acts. (f) To exercise self-control over all mental action.

When small areas of the cortex are diseased, one or more of these functions may be suspended ; this alone does not imply insanity. But when the entire cortex is affected by temporary changes of nutrition, or of circulation (as in starvation or intoxication), or by processes of disease, the harmony of interaction of its various parts is disturbed, and delirium and insanity result. Mental symptoms are then produced.

It is a relic of the old superstition that the insane are possessed by the devil to consider mental symptoms as mysterious. The processes of mental action in a deranged mind do not differ in kind from those in a sane mind. The depression of grief and of melancholia, the excitement of great success and of mania, the resentment at injustice, real or imaginary, are identical in kind. The difference be-

tween sane and insane mental action lies in the *origin* of the mental process, and in the *degree of its intensity*. In health, thought, emotion, and action are determined by external circumstance or by logical mental processes starting from true premises, and the resulting feeling or action is proportionate to the thought or motive. In mental disease thought, emotion, and action are determined by internal causes, unexplained by external circumstance, often without actual premises, and out of proportion to the supposed cause. It is therefore the origin and degree rather than a new kind of mental action which are to be investigated in the study of insanity.

Thus two men may show signs of distress or of despair : in one an adequate cause is found in family affliction or financial ruin ; in the other no reason can be ascertained excepting the hypothesis of disease. Two men may perform a theft : in one, poverty combined with opportunity and a low moral standard will explain the act ; in the other no motive can be found, and the only excuse given may be that of a sudden overwhelming desire to steal only assignable to disease. The manifest emotion or action in both is the same. The difference which makes the latter insane in each case is the origin of the feeling or act.

So long as our ideas, feelings, and actions are in harmony with our education and surroundings, and the reaction between external agents or influences and the state of mind is in natural proportion, so long are we sane. For all ideas must have a logical basis, all feeling must have an adequate cause, and all action must have a sufficient motive, in a sound mind. And hence it is in the origin of mental action rather than in its process that insanity usually begins. Thus, an idea without reason, an emotion without cause, an act without motive, are manifestly insane.

THE SYMPTOMS OF INSANITY

These may be conveniently studied according as they indicate disturbance in

(*a*) Conscious perception.
(*b*) Logical thought.
(*c*) Emotional feeling.
(*d*) Voluntary action.
(*e*) Self-consciousness.

(*a*) DISTURBANCE IN CONSCIOUS PERCEPTION.—Conscious perceptions are usually the result of cortical action set up by impressions received from the sensory organs through the intermediate subcortical centres.

Thus the impact of light upon the eye sends an impression through the optic nerve to the optic thalamus and corpora quadrigemina, where reflex results, such as convergence of the eyes toward the light and action of the pupils, are produced; and thence through the visual tract to the cortex, where the light, as well as the incidental ocular movements, come before consciousness, which then, by an act of comparison between the sensation received and other prior sensations remembered, perceives the light as light of some particular kind in a particular place. These perceptions may be rendered more acute or may be blunted by disease. Thus in meningitis light may be painful at first, but later the patient may actually become blind. It is a mental power to increase the acuteness of perception by attention. Thus sounds which otherwise would pass unnoticed may be heard if we listen.

Conscious perceptions leave behind them a trace which we can revive in memory. And by imagination it is even possible to call to mind so vividly the mental pictures which remain as traces of former perceptions that we almost reach the point of reviving the image so clearly as to suppose that we see it. Galton calls this the power of mental imagery. It is to the visual power what the power to silently hum a melody is to the auditory power.

When attention is strained and expecting a perception a slight sensation may give rise to a false perception; or a misinterpretation

of the sensation perceived. Thus the face of a stranger may be mistaken for that of a friend; the ringing in the ear produced by a bit of wax may be interpreted as a chime of bells; a white gravestone on a dark night may be thought to be a ghost. *An illusion is a real perception produced by a sensation falsely interpreted by the mind.* Such false interpretation is a common symptom of insanity. The tick of a clock is thought to be a voice addressing the sufferer. The reflection of the light from a shining object in the room is thought to be a face of angel or devil appearing to him. A stranger is supposed to be some friend risen from the dead.

In a sane man the misinterpretation is easily corrected by other considerations. He picks the wax from his ear; he satisfies himself that the object is not a ghost. The insane man accepts the misinterpretation without investigation and believes in its truth. He may make it the basis of a train of thought and action without seeking to establish its validity. Thus the illusion that a voice commands him not to eat may lead to an attempt at suicide by starvation. The act is then insane because based on an illusion which is the product of a diseased mind. The indisposition to correct illusions is in itself a grave symptom of insanity.

But conscious perceptions are capable of being produced without actual sensations from without. Any process which can excite the cortex to activity can cause a conscious perception, probably by exciting the physical basis of memory pictures to such a degree as to equal in intensity the stimulus of the original sensation and thus produce a mental perception. A blow on the head gives a sensation of light, opium or cannabis indica causes false perceptions of faces and figures. In delirium false perceptions of wholly internal origin are common. And in insanity such *false perceptions without any ascertainable external sensational origin occur. These are called hallucinations.* Such perceptions are mental revivals of past perceptions, for blind men never have hallucinations of sight and deaf-mutes never have hallucinations of hearing. Their occurrence implies intense activity of cortical function—possibly under great excitement (*e.g.*, Luther seeing the devil), usually in disease (*e.g.*, Joan of Arc seeing the Virgin). In a sane man hallucinations are at once corrected. Thus the zigzag lines of light seen in an attack of migraine are never thought to be external to the eye. The insane man accepts the perception as real and believes in its truth. Consciousness has no means of determining whether a perception is false or real excepting by a process of reason. An hallucination cannot be denied but must be explained.

The insane man does not explain it, and because he does not he is insane. When an insane person begins to explain and correct his illusions and hallucinations his sanity is returning.

Illusions and hallucinations in any individual may be stable, that is, always of one kind; or changeable, of many kinds; they are usually intermittent, rarely constant. They may be an early symptom of insanity; thus a patient with periodical mania saw a gray bird flying around his head for some days prior to each attack. They may continue through the disease. They are not always present. They may occur in any variety of sensory perception, as visions, as voices, as smells or tastes (especially when the tongue is coated), as sensations of touch (hyperæsthesia of the arm leads to the delusion that the arm is glass), and as sensations of muscular sense or movement (patients think they can fly). They may surprise the patient and lead to delusions or to insane acts, or to great emotional excitement. Insults heard may cause rage and lead to violence, or cause grief, despair, and suicide. A woman seeing several strange men about her constantly is greatly distressed at the insult of their presence.

Hallucinations and illusions, if not confessed by the patient, may often be detected by noticing sudden changes of facial expression, anxious listening or looking about, or uncalled-for remarks as if in answer to questions heard.

Conscious perception is necessary to recognition of objects and persons and to the proper reaction of the mind to its surroundings. A loss of the power of conscious perception may occur in disease and is a symptom of insanity. The patient is then like a baby who has never learned the use of things; he loses all interest in things; he mistakes one thing for another—stones for diamonds, tinsel for gold; he loses his way, forgets his relatives, becomes helpless and *demented.* The loss of the power of conscious perception occurs in the terminal stage of insanity, rarely early in its course.

A defect of conscious perception due to inattention, the mind being so absorbed with its own train of thought or state of feeling as to neglect all surroundings, as in melancholia or stuporous insanity, occasionally occurs, but does not imply a loss of actual power. Hence in such states sudden recovery is possible when the attention returns.

(*b*) Disturbance in Logical Thought.—The mind is constantly combining the conscious perceptions or their memories into ideas, which are either concrete or abstract, the latter being handled by the aid of language. This play of consciousness is not at random, but

always normally along the lines of association which have originally been established by simultaneous perception of associated objects and subsequently strengthened by repeated use.

Thus the idea "bell" is made up of the memories of the shape, sound, and appearance of numerous special bells seen and heard, and of the word "bell" spoken, heard, written, or read, each of these memories having a separate location in the cortex, all being joined together by association fibres and any one being recalled to mind when any other is brought into consciousness by a perception of the object or its name. The idea "charity" is made up of numerous memory pictures of acts of benevolence or of descriptions of such acts, the multitude of thoughts connected with it being handled easily by the aid of the word: language being the necessary basis for all abstract thought.

The action of the mind in passing from one subject to another along definite lines of association is logical thought.

The process of association of ideas may be affected by disease. Thought may be delayed, so that mental action is manifestly sluggish and painful. Thus the replies to questions are slow in a melancholic, and he cannot be hurried. Such slow thought makes time seem endless and in itself gives great distress. The process of association may be arrested so that a question no longer leads the mind to its answer, a sensation no longer calls up associated ideas; the condition is then one of stupor. On the other hand, thought may be hastened by disease which excites the brain, and thus associations may become abnormally rapid, so that a single perception may start many unfamiliar and unexpected ideas, which occur too rapidly to be expressed. Thus the rapid thought of a maniac outruns his language and leads to incoherent talk, speech being too slow for his ideas. This rapid thought makes the experience of an hour seem that of a year. Time is measured by the rapidity of mental processes, each association normally taking one-eighth of a second. Hence in disease the time sense is impaired.

In insanity ideas may be suddenly brought before the mind from internal causes without logical associational process. Such *compulsory ideas* resemble in origin hallucinations. They arise spontaneously and cannot be referred to any process of thinking. They surprise and alarm the patient. Examples: sudden fear of friends, idea that clothes are contaminated, impulse to swear, to throw one's self off a height, desire to touch certain objects, to steal. The persistence of such ideas may lead to insane acts or to the formation of delusions, if they

are not recognized as of internal origin. *Delusions are mistaken ideas without sufficient logical foundation, accepted as true.*

A sane man may have a mistaken idea, *e.g.*, seated in a stationary railway train the movement of a passing train combined with the expectation of starting leads to the delusion that we are moving. This is corrected by glancing at the other side. A man unfortunate in business usually explains it rationally by his circumstances, or his incapacity, never, unless insane, by the hypothesis of a widespread conspiracy among strangers to secure his ruin. The lack of logical foundation for such an idea and the acceptance of the idea without question make it a delusion.

Delusions may arise from reflection upon mistaken premises and then be logical. Thus Joan of Arc, having seen the Virgin and received commands from her (hallucinations), considered herself inspired for a mission. A man considers that he has committed the unpardonable sin because his thoughts are all depressing, being governed by his emotional state, which is thus the primary insane origin of the delusion. Delusions may arise from reflection on a valid premise but be illogical. Thus pain in the stomach gives rise to the delusion that an animal is living in the abdomen. Many delusions are theories which patients invent to account for bodily sensations. Lastly, delusions may arise spontaneously, like compulsory ideas and hallucinations, being entirely of internal origin—examples, the delusion of persecution, the delusion of grandeur. They are often thought over, elaborated, brought into relation with every event of life, and so finally become the dominant thought of the person, controlling his entire mental action without necessarily impairing any of its processes (so-called monomania). Many delusions are illogical and absurd and transient. Others are well worked out, are systematized, and the acts and feelings are the natural result of the delusion.

The character of the delusion is influenced by the surroundings, life, education, and habits of the person. Brokers get delusions of wealth or poverty; clergymen get delusions of damnation for infidelity; mechanics discover perpetual motion. In Europe insane think they are noble; in America they think they should be appointed to office (Guiteau). Formerly witchcraft was thought to influence patients, now electricity is the agent. The existence of bodily disease may influence the delusion. Thus pleurisy gives rise to the idea that enemies are sticking knives into the patient's side. Persistent delusions referred to any organ should lead to suspicion of actual disease there. Lastly, the form of insanity often determines the delusion. Thus in religious melancholia the patient

believes that he has committed the unpardonable sin ; in chronic alcoholic insanity the delusion of conjugal infidelity is usual ; in paresis the patient believes himself well, strong, and wealthy ; in paranoia the delusion of persecution by a conspiracy is constant. There are very few insane persons who are free from delusions, and hence this is the most important symptom of insanity.

(*c*) Disturbance of Emotional Feeling.—All mental action is attended by pleasure or pain, either distinct or indistinct, which varies in degree and complexity in accordance with cerebral nutrition. There are times when we are easily amused or excited, there are times when we are easily depressed ; temperament determines the prevailing emotional state or the tendency to emotional reaction to surroundings. In a normal man spontaneous variations of emotion occur within wide limits, so that the same subject may at one time give pleasure, at another pain, *e.g.*, interest in a lecture or a play. In insanity a greater emotional variability may be present, so that emotions are more intensely felt and more readily produced, or they may be unusually dulled. There may be an undue feeling about trivial matters, *e.g.*, fear of dirt leads the patient to wash his hands constantly ; he shows great excitement over unimportant events. There may be lack of any feeling, because the mind is constantly absorbed with a delusion, *e.g.*, the patient becomes indifferent to family and business affairs, so that serious financial trouble does not seem to affect him ; or he may become dirty. Patients often complain that they can take no interest in anything. There may also be a spontaneous emotional condition of very intense kind, dominating all mental action, such as great depression or great exaltation, due entirely to disease.

Depression is characteristic of melancholia. Nothing interests or pleases, and even thought is painful and action disagreeable. Such patients have intense anxiety without being able to assign a cause. The depression may lead to the formation of a delusion to explain the depression, *e.g.*, idea of a fatal disease.

Exaltation is found in mania and in paresis—a sense of great power and ability leading to foolish boasting or to reckless acts. This may give rise to delusion of inspiration or grandeur.

Primary emotional states must be distinguished from secondary states due to logical thought, on the basis of delusions or hallucinations. The latter are usually less prominent and less intense. The existence and character of emotional states are shown by facial expression and action.

An actual perversion of emotion may occur in severe cases, where

things which should disgust, please, *e.g.*, patient drinks urine ; sexual perversion.

(*d*) Disturbance in Voluntary Action and Conduct.—Voluntary action is the outcome of sensation, thought, and emotion, controlled by conscious motives. There is an unconscious, unwilled activity accompanying all mental action, known as muscular tone, and shown in facial expression, attitude, and automatic movement. In disease the activity may be weakened from perverted sensations, slow and difficult thought, or deficient emotion, in which case action seems useless. Thus a melancholic is often inactive and looks sad. Or the activity may be increased, an unwonted sense of freedom may be felt from excitement in all mental functions. Thus a maniac is never quiet, is in motion and noisy and ambitious and looks eager. If this unconscious activity is repressed by disease, a nervous stress results which often causes pain and leads to final relief in maniacal outbursts. Hence the occasional agitation in melancholia. Spontaneous or impulsive acts occur in insanity, analogous to hallucinations, delusions, and primary emotional states, not traceable to conscious motives and certainly without choice—example : constant activity of a paretic, sudden act in response to sensation, or hallucination, or emotion, *e.g.*, rape, murder, suicide, aimless movements of body of anxious melancholic, repetition of same phrase in katatonia.

Voluntary action may also be affected in insanity. The deranged mind may not weigh motives properly, or may be deceived by delusions, or may yield to sudden impulses, and hence the patient's conduct is insane, *e.g.*, extravagant expenditures of paretic; homicide by paranoiac under delusion of persecution ; kleptomania or pyromania. Or the weakened mind may be unable to choose between conflicting motives, and be constantly questioning, and hence fails to decide, *e.g.*, insanity of doubt.

Responsibility is impaired when it can be proven—

(1) That an act was the result of hallucination, delusion, uncontrollable emotion, or morbid impulse due to disease.

(2) That the motives for and against the act could not be properly weighed on account of weakened intellectual power.

(3) That the import of the act could not be realized from impaired memory or consciousness.

As a plea in defence of criminal acts other insane acts and other symptoms of insanity besides the one in question must be proven.

(*e*) Disturbance of Consciousness.—Mental action is partly conscious and partly unconscious—that is, there are degrees of dis-

tinctness in the various subjects occupying consciousness, *e.g.*, while interested in a play one is only partly conscious of the seat being uncomfortable, the theatre hot, and the head aching from the bad air. An act is only distinctly conscious when attention is directed to it and a memory of it remains. Many of our transient moods, many automatic acts, and our sensation of well or ill-being are largely sub-conscious, *i.e.*, go on without attention.

The range of consciousness includes consciousness of external things and of internal thoughts, and there is normally a balance between these. If the attention is concentrated upon internal thought the external field of consciousness is correspondingly limited as the internal field widens. Introspection may exclude external impressions. Hence a hypochondriac has few interests outside himself and becomes conscious of sensations usually unnoticed, *e.g.*, the heart-beat. A melancholic patient has his entire attention devoted to his own state of feeling, and is not affected by surroundings. It does not help him to give him diversion.

Consciousness may be weakened in insanity; thus, the duration of impressions may be too short for the slow attention and memory, and the continuity of thought may thus be lost—*e.g.*, in dementia a patient may get lost in his own house, or if away from home be unable to tell who he is or where he lives; may lose his personality. A sort of somnambulistic state may be present, or a state of double consciousness.

The personality is the sum of continuous acts of self-consciousness. A change of personality may be a symptom of insanity, the insane ideas and emotions being so foreign to the normal man that his insane character and disposition cannot be brought into harmony with his former personality in consciousness, and so he declares that he is another person, *e.g.*, a king, Christ.

Finally, consciousness may be almost suspended for a time, *e.g.*, in stuporous insanity, in which a patient has, after recovery, no memory of weeks of existence.

. . . . . .

The symptoms of insanity are thus seen to be variations in degree of normal mental processes, often of internal origin. They are not mysterious, nor do they differ in kind from ordinary states of mind.

THE PHYSICAL SYMPTOMS OF INSANITY.

1. Sensory disturbances, such as anæsthesia, hyperæsthesia, or pain, may occur, and are often the foundation for illusions and delusions.

2. Reflex action may be affected in various ways—lessened because of increased inhibitory attention, increased because of weakened inhibition or because of direct irritation from disease. Thus the pupils may vary, being often dilated in melancholia and contracted in mania or paresis.

3. Motor disturbances are noticed both in the state of muscular tone and in the power of voluntary action. Facial expression and attitude, character of movements, and of speech, and of writing, and peculiarities of conduct, are often valuable symptoms in differential diagnosis.

4. Vaso-motor, trophic, and nutritive changes are commonly found in insanity. In states of depression the circulation is impaired, the pulse is small, the skin pale. In states of excitement the face is flushed, the surface hot. In both weight is lost and digestion is much impaired. All emotion reacts upon the bodily functions.

5. Insomnia is the most prominent physical symptom of insanity. Headache and vertigo are rare. Convulsions occur in paresis sometimes, and paralysis in the last stage.

THE FORMS OF INSANITY.

Melancholia.

Melancholia is a spontaneous, painful, emotional state with depression of all the mental and nervous functions.

It begins gradually. The patient feels despondent; loses interest in things about him—in his family, business, religion, and amusements; prefers seclusion, as all impressions become painful; becomes conscious of inability to think clearly or quickly, to read or to study, to enjoy life, or to do his work; and feels disinclined to exert himself. From time to time a sudden, unexplained anxiety, a fear of impending evil with palpitation of the heart comes over him, and he dreads insanity and thinks of suicide.

This condition may remain for some time as a *simple melancholia*, or be the prodromal stage of mania.

If the depression becomes painfully intense and continuous it leads to delusions. In health the prevailing emotion colors our interpretation of events. So in disease. In melancholia delusions are always of a self-condemnatory character. The patient thinks that he has offended the Deity, has committed the unpardonable sin, and blames himself for the most trivial acts and thoughts as well as for ordinary transgressions, and will not admit that he can repent or be pardoned. Or he thinks that he is an outcast from society, that he has no friends and no home, is too vile to associate with other men, is the greatest of criminals, and that nothing remains except suicide; that he is not worthy of care or shelter, and that it is useless to attempt any treatment, for it is folly to consider his state one of disease. He believes it a just punishment for his sins, but so painful that death seems desirable.

This condition may remain for some time as *melancholia with delusions.*

In severer cases hallucinations and illusions, especially of hearing, begin, and are of a character to increase the delusion and alarm the patient. The voice of God is heard condemning him. The devil tempts him by every form of evil suggestion and accusation, even taunts him with fear of suicide. Voices call him the chief of sinners,

the worst of mortals, and command him to kill himself, or tell him he is to live forever in misery. Hallucinations of other senses are added, imps are seen about him and fearful shapes threaten. His bowels are being eaten by an animal within, his organs are being destroyed by electricity; he can taste nothing because of foul odors. The hallucinations and delusions are usually of a religious or hypochondriacal character.

In this condition the distress may at times become too great to be borne in silence or in quiet; the patient becomes restless, excited, violent, noisy, crying out in despair and making many attempts at self-mutilation or suicide. (*Melancholia with agitation.*)

Finally, if suicide is prevented, he may sink into a state of stolid stupor, be wholly absorbed in his mental agony, lose his personal identity, be devoid of energy, and neglect to eat, and even disregard ordinary cleanliness. He sits or stands wherever placed, silent, motionless, stupid. (*Melancholia with stupor.*) Even in this state sudden wild attempts at suicide may be made.

Whatever the degree of melancholia recovery is probable and occurs slowly, the symptoms gradually subsiding, the remissions in the state of depression, which indicate beginning recovery, occur toward evening.

In melancholia the sensory perception is slow and imperfect, partly because attention is not paid to the surroundings, but is concentrated upon the emotional state. The processes of thought are delayed, association time being perceptibly increased, and all thought is attended by a sense of weariness and effort. The play of emotion is hampered by the depression present, nothing seems to please or to divert, and the intensity of depression is out of all proportion to any possible cause. Voluntary action becomes disagreeable and even impossible, the necessary stimulus in motive being wanting, choice being difficult and effort seeming impossible. The instinctive acts are slowly performed, there is a loss of muscular tone, and feeling of impaired power; the automatic expressions of distress, such as crying, are at first suppressed but later may become violent—such as constant movement, tearing the hair, beating the body, groaning, pacing the floor for hours. Consciousness is clear throughout and memory of the disease remains, but consciousness is concentrated upon internal mental action and disregards the external world.

The physical symptoms are well marked. The facial expression is that of distress or despair and lacks all sign of interest. Nutrition is rapidly impaired, as indigestion and constipation are present, and

weight is lost. The patient is sleepless, and suffers from precordial anxiety, and palpitation. The pulse is small and tense. The pupils are dilated. The reflexes are diminished.

The course of the disease is as follows: a gradual development of the mental and physical symptoms to a greater or less degree of intensity in different cases, a stationary period of some weeks during which there is constant danger of suicide, and then a termination in (1) recovery in sixty per cent., which is more or less rapid according to the severity of the disease; or (2) the development of mania, which runs its course; or (3) the development of chronic insanity with fixed depressed delusions, and finally dementia after a period of years. Relapses are not uncommon and a return of the disease occurs in ten per cent. of the cases. Some patients commit suicide, others die of exhaustion, others of complicating pulmonary or intestinal diseases.

The prognosis is favorable, as sixty per cent. recover. The duration in the cases which do recover is six months or less in forty-five per cent., under a year in thirty-seven per cent., over a year in eighteen per cent. The first sign of recovery is a gain in weight.

The treatment of light cases without delusions consists in increasing the nutrition by frequent feeding, with the aid of tonics, stimulants, laxatives, and aids to digestion, and the use of an excess of fluids, especially milk and beef extracts (forcible feeding may be necessary); the use of long warm baths followed by short cool douches to head and back, massage, and out-of-door exercise without fatigue; the use of vaso-dilators and cardiac stimulants, viz., nitroglycerine or chloral or opium with strophanthus, spartein, or alcohol; and the use of hypnotics, viz., chloral, amylen hydrate, chloralamide, or sulphonal.

The treatment of severe cases with exhaustion demands absolute quiet and rest in bed. In every case precautions against sudden impulses to suicide must be taken from the first.

It is better to keep a melancholic asleep than to attempt to relieve his distress by diversion or anything which demands a mental effort which he cannot make.

Mania.

Mania is a spontaneous exalted emotional state with increased activity of all the mental and nervous functions.

It begins gradually, as a rule, with a prodromic period of depression. It occasionally begins suddenly, *e.g.*, after childbirth. After the period of depression, in which the symptoms are those of simple melancholia, the patient passes into a state of exhilaration and eager excited mental activity, in which perception is very keen, the association of ideas unusually rapid and numerous, memory vivid, thought quick and easy, the emotional state one of pleasure easily aroused, activity great, movement and speech free and spontaneously agreeable, a sense of power and force is felt, consciousness being clear and life happy. He goes about among his friends showing unusual wit and social instincts, takes long journeys, joins in new enterprises, spends money beyond his means. The physical functions are also increased, the patient looks well, all the appetites, especially the sexual, are heightened, but the state of mind does not permit of sleep, and the constant activity leads to loss of weight.

As the condition goes on the torrent of ideas and impulses becomes greater, and all checks upon action—intellectual, social, or moral—seem removed. The patient yields to all impulses without restraint; shouts and sings and dances; any opposition causes irritability of temper and combativeness; and acts of violence, profane extravagant language and maniacal action are indulged in at slight provocation. The patient affirms that he never has felt so well, so happy, so confident of his powers, and so brilliant as he feels in this state of *simple mania*. Such a state may be a stage in the course of "circular insanity" (alternation of melancholia and mania), or of hysterical insanity, or it may occur in attacks which subside (periodical mania), or it may go on to *mania with delusions and frenzy*.

For the rapidity of thought may lead to a confusion of ideas in which reasoning is abandoned and actions are done in response to perceptions without consideration of motive or responsibility. The sight of a knife leads to an attempt at murder, the sexual impulses lead to rape. Soon hallucinations and illusions appear (occasionally they occur at the outset), increasing the mental excitement, for the mind does not stop to correct mistaken perceptions. They are of all kinds in all senses, especially of sight, and usually are agreeable,

or, if not, are interpreted favorably, being colored by the emotional state. Even unpleasant hallucinations fail to depress the patient. The hallucinations or the train of thought and heightened feeling soon lead to delusions of an exalted character. The patient is a noble, or a king; is inspired, or is God; owns the earth; has supernatural powers; has hundreds of children and millions of money. But the flow of thought is too rapid for one delusion to be elaborated or brought logically into relation with surroundings, hence the delusions are many, are not fixed, and vary from day to day. Consciousness is apparently clear, but attention is so scattered that memory of what occurs in mania is very imperfect.

The outcome of the confused deluded thought is largely in insane action in mania, and acts of frenzy are frequent. Such acts may also be the result of direct cerebral excitement without any motive. The patient is in constant motion; shouts and screams; talks constantly, often in disconnected phrases, the rapid thought outrunning slower speech; tears his clothes off; acts without sense of decency; becomes in conduct a mere beast without restraint; gets into terrible rage with those about him, and becomes abusive, violent, unclean, and dangerous. Sexual excitement is often intense (nymphomania). The physical symptoms are few. All the bodily functions are, as a rule, well performed, though the constant activity leads invariably to great loss of weight and sleeplessness. Secretions are increased, as may be noticed by constant expectoration and frequent micturition. The patients appear to disregard cold, and offensive odors, but are not anæsthetic. Temperature is not raised, and pulse is rarely increased in frequency. In states of frenzy great exhaustion may result.

The course of the disease is as follows: A gradual onset, with prodromic period of melancholia, and final development of all the symptoms of simple mania, which usually goes on to a frenzied state with delusions; a stationary period of about three months and then a gradual recovery, whose beginning is shown by brief lucid intervals, in eighty per cent. of the cases. Death from exhaustion occurs in five per cent., and fifteen per cent. go on to chronic mania and terminate in dementia. The cases rarely last over six months—severe ones rarely over a year, and the intensity of the frenzy does not determine the duration. A recurrence is not frequent.

The treatment consists in isolation, and in case of violence it is far better to allow the patient freedom of movement in a warm, unfurnished room, under supervision of attendants, than to restrain him by the camisole. There is little danger of suicide. Good food and water

must be given freely to keep up the nutrition and excretions—especially in puerperal mania. Long-continued warm baths and wet packs have a quieting effect and should be given daily. To secure sleep chloral or sulphonal, or bromide with ergot, or hypodermic injections of hyoscyamia $\frac{1}{100}$ gr. may be used. Morphine always excites a violent maniac unless given in dangerous doses. In the stage of convalescence small doses of opium may be used.

Dementia.

Dementia is a perverted intellectual state in which the normal processes of thought, reason, and volition are interfered with or suspended.

In the normal mind perceptions and ideas start up processes of thought along accustomed or logical lines of association, which reason guides to right conclusions and conduct by rejecting associations of ideas which are merely accidental and illogical.

In disease the normal train of thought may be disturbed in various ways.

(1) The perceptions and ideas may be wholly of internal origin and so numerous and disconnected that thought is confused, no natural association of ideas being possible between the subjects brought before consciousness. The mind then reacts to the various subjects before it without logical sequence. This condition is known as *confusional insanity*.

(2) The process of thought may be suspended by disease, so that perceptions and ideas fail to start associations, and voluntary logical mental action is arrested, all resulting emotion and conduct is then wanting, and the patient becomes a mere breathing automaton without perception, ideation, emotion, action, or consciousness. This condition is known as *stuporous insanity*.

(3) In all the forms of insanity there are permanent cases which show no tendency to recovery. Thus, some patients with melancholia or mania continue to suffer from their delusions, which, becoming fixed and constant, hamper all their mental action and prevent logical thought and proper choice of conduct. Such imperfect mental action long continued leads to a permanent decay of mental power. Or confusional insanity, if not recovered from, leads in time to a total suspension of all logical processes and to a permanent decay of mental power. Or stuporous insanity, whether relieved by automatic acts or not, may continue, leaving the mind in a state of permanent decay. And lastly, all forms of diffuse organic brain disease, such as meningo-encephalitis (the lesion of general paresis), multiple sclerosis, or cerebral syphilis, which suspend the activity of the cortex or of its association fibres will produce permanent mental decay. Any of these diseases may therefore result in *terminal dementia*.

It is evident, therefore, that the condition of dementia, in which the normal processes of thought, reason, and volition are interfered

with or suspended, may arise in various ways, however uniform its final result. The varieties of insanity included in dementia present, therefore, different symptoms in their course.

1. Confusional Insanity (Amentia. Verwirrtheit. Wahnsinn) *is an impairment of mental action with confusion of ideas due to the presence of illusions and hallucinations, but without continuous uniform emotional disturbance or suspension of mental action.*

It begins suddenly in consequence of an exhausted physical condition after fevers, rheumatism, or great excesses, and occasionally after an emotional shock or a short period of mental depression. The patient suffers from headache, vertigo, nervous irritability, and insomnia, becomes conscious of difficulty in controlling his flow of thought, and then is startled by the appearance of illusions and hallucinations in all the senses, without order, and in rapid succession, which confuse his mind. The state resembles the delirium of fever in respect of the variety and illogical kind of thought. The patient is excited or depressed alternately by the hallucinations or is merely confused. Soon delusions based upon the hallucinations develop, but these are transient, and vary from hour to hour in character. The patient may think that he has sinned, or that he is being poisoned, or that he is persecuted, or that he is inspired, or that he is wealthy. His acts depend upon the delusion present, are impulsive, without plan or purpose, and vary with his emotional state. He cries or laughs, is angry or merry, is fearful or jubilant, is noisy or quiet. No one emotion, action, or delusion is long continued. The consciousness is much clouded, the patient does not know his surroundings or family, mistakes strangers for relatives, cannot fix his attention continuously on anything, becomes easily distracted from any line of thought, is incoherent in his speech, sentences being incomplete and disconnected, and has little or no memory of what has occurred during his disease. The confusion of thought is partly due to weakness of mental action and partly to the many illusions which crowd upon the mind. Insomnia, persistent refusal of food, and consequent emaciation and exhaustion are common, and great prostration is felt during the lucid intervals when such occur. At times the patient may sink for some hours into a state of stupor. The duration varies from a few weeks (especially after fevers) to several months (especially after childbirth), and a gradual recovery occurs in seventy per cent. of the cases; the remainder going on to chronic dementia, or terminating by death from exhaustion.

The treatment resembles that for melancholia.

2. Stuporous Insanity (Primary Dementia) *is an impairment and suspension of psychical action in all its phases, perception, ideation, emotion, action, and consciousness being equally involved.*

It begins either gradually after great exhaustion from severe diseases or excesses, or suddenly after hemorrhage or emotional shock; usually in persons below the age of thirty, who are predisposed to nervous prostration by a weak constitution.

The patient sinks into a state of indifference and becomes slow in thought, stupid, sleeps easily, loses all spontaneity, and acts as if in a semi-stupor. He takes no notice of what is going on about him, and has few sensory perceptions, having to be fed and kept clean like a baby. His mind appears to be a blank, no sign of thought being ascertainable. He is not depressed, but is wholly indifferent, nothing being able to excite his interest. His stupor differs from that occurring in melancholia in its origin—his mind is not fixed on one idea by an emotional state.

The total lack of perception, thought, or emotion removes all stimulus to action, and he remains motionless, the muscles being relaxed, the heart weak and rapid, respiration slow and superficial, the limbs cold, cyanotic, œdematous, reflexes diminished, automatic acts performed without notice, so that he is dirty and liable to bedsores. He is speechless and questions produce no response. He appears to have no consciousness, though the eyes may be open and an occasional tremor or sigh may show that he is still alive. The urine contains an excess of phosphates. In females menstruation is arrested.

The course is a remittent one, for hours or even days intervene in the course of the stupor when a slight mental activity can be aroused; this, however, is never normal, and rarely accompanied by any excitement. Where there is some excitement there may be a tendency to repeat certain phrases or acts or to pass into a state of ecstasy or catalepsy.* The stupor lasts from two to four months and then gradually subsides in ninety per cent. of the cases. Ten per cent. die of bedsores, cystitis, or pneumonia.

The patient being speechless and stupid it is sometimes difficult to distinguish this disease from melancholia with stupor. But in stuporous insanity the history of the onset differs from that in melancholia, the facial expression is that of stupor not of mental distress, the patient sleeps much. The occasional remission of the stupor is not attended by evidences of despair and attempts at suicide, and the physical signs of great prostration are much more evident.

* This variety of stuporous insanity is called Katatonia.

The treatment consists of rest in bed with attention to cleanliness, and maintenance of bodily warmth; forcible feeding frequently both by mouth and rectum; stimulation and tonics, both general, and directed to the heart and respiration. The necessity of such measures, even though they involve forcible feeding for weeks, is evident, since such a large per cent. of cases recover.

3. Terminal Dementia (Blödsinn, Chronic Mental Deterioration. Persistent Mental Instability) *is the final result of all those forms of insanity which become chronic and do not terminate by death in the early stages.*

In some cases it is reached quite soon, as for example, after severe maniacal frenzy. In others it does not appear for many years after the onset of the insanity, as for example in confusional insanity. And different forms of insanity present many variations in their course down to the terminal stage in dementia.

Whatever the form, however, there is a progressive loss of the highest mental attainments, of the finer appreciation of moral obligations and of social restraints; then the intellectual activity, keenness of thought, judgment, and reason, with the allied powers of memory and imagination suffer. In a later stage perceptive power, attention, concentration, and association of ideas become enfeebled, and the emotional state becomes unstable. Finally the vacant stare, the immobile face, the relaxed posture, and the lack of appreciation of surroundings indicate the total suspension of thought. Thus there is a progressive dissolution of the mental powers, those of the highest level of evolution being the first to succumb, but finally all levels being involved until the individual loses all personality and self-consciousness and is reduced to a breathing automaton.

In the advance of such a dementia there are two classes of patients which present marked differences. Some are frequently excited. Others are usually apathetic. The first class have usually suffered originally from mania, from melancholia with agitation, or from confusional insanity. They are noisy, restless, and excited, but have no clear delusion or definite emotion as a basis for such excitement, no motive for their actions.

The second class have usually suffered from melancholia or stuporous insanity, or from general paresis. They are quiet, motionless, and destitute of thought and feeling, unaware of the need of food, and dirty. The physical state of persons with terminal dementia is one of fair nutrition, increase of weight, and good sleep. Trophic disturbances, however, are not infrequent, with resulting eruptions, bed-

sores, fractures of the bones, and hæmatoma of the ears due to slight irritation or to injury. Finally these patients die of exhaustion. Asylum care is the only possibility in such cases.

The forms of insanity thus far studied are such as may develop unexpectedly in a perfectly well person without a nervous constitution or any hereditary predisposition to mental disease. They are usually produced by some severe mental or emotional shock, by continued worry, or by some acute or exhausting physical disease. They tend to recovery in a very large majority of cases, after running a typical course, during which the contrast between the previous state of health and the present one of insanity is well recognized. There is no special tendency to relapse, and such derangements are not transmitted to the next generation. The mental disturbance must be attributed to a functional change in the brain, due to disordered nutrition or circulation, since no characteristic lesions are found in the few fatal cases. These points of general resemblance warrant the classification of *melancholia*, *mania*, *confusional insanity*, and *stuporous insanity* together in a group which is termed the PSYCHONEUROSES.

There are a certain number of persons in the community who differ from others in the fact that they possess a weak, unstable, irritable, nervous system from their birth. Their parents have been intemperate, nervous, or deranged, or they have had severe diseases in infancy. The weakness shows itself often during childhood, but especially at puberty, or when the responsibilities and endeavors of adult life put the nervous system to any strain. If the history of such a person is investigated it will be found that his vital functions are unduly sensitive to external injurious influences, so that slight causes produce severe effects, an indigestion causing convulsions, a little rise of temperature causing delirium. His cerebral functions are easily disturbed, he is emotional, hypersensitive, suffers pain more keenly than others, and is more ardent or impulsive. His vaso-motor system is unstable, he flushes and pales easily, is subject to palpitation, is quickly affected

by alcohol, and suffers on slight provocation from headaches, and vague neurasthenic symptoms. His mental activity is often of a highly unstable type. He is very easily excited, amused, offended, or depressed, is rarely calm, but usually sanguine or despondent. He is often peculiarly indifferent to things which should excite his emotion, does not respect or attend to his relatives, and indulges in strange antipathies to those who are his best friends. He is also peculiar in his modes of thought. He may be imaginative, original, often brilliant in certain directions, but seemingly incapable of acquiring ordinary forms of knowledge in ordinary ways. He is therefore stupid in some directions, incapable of deep, intense concentration, and perhaps at times exceedingly illogical in thought and unreliable in statement. He is usually impulsive, acts without proper consideration, is ungovernable, and persists in his own way in spite of reproof, often doing queer things without any apparent reason. In serious matters he is unstable, shows little decision of character, and no power of continuous effort. His self-consciousness may be extreme, all external occurrences being brought into some improbable relation with himself. His self-control is, however, poor, and hence he is liable to indulge in bad habits, especially sexual, and to smoke and drink to excess. He may be odd in manner and in habits. In short there is a noticeable lack of harmony in his mental processes which makes him erratic and peculiar, and a general irritable weakness of the nervous system which makes him incapable of enduring any physical or mental strain.

It is in this class of the community that neurasthenia, hypochondria, hysteria, and traumatic neuroses develop when their appropriate causes act upon the nervous system.

It is of course possible for great strains to produce similar results in a nervous system originally normal, but this is uncommon, and neurotic persons are usually predisposed to neurosis from their birth. Such a person may go through life without much suffering and never show evidences of insanity. Others are always known as eccentric persons, not to be relied upon, liable to do or say odd things. Others still pass the border-line between eccentricity and insanity and develop mental symptoms so marked and so typical that everyone declares them to be insane.

When such a person becomes insane it is usually difficult to fix the date of the onset, for there is no sharp line between his ordinary condition and the mental derangement—the latter creeps upon him slowly. In such persons apparently trivial causes, such as the change of character which normally occurs at puberty, or during pregnancy

or at the menopause; or some particular nervous strain, such as overwork or incessant worry; or some seemingly slight disease, or injury may produce very serious results. If such a person becomes insane the course of the disease is usually chronic, and very irregular, with lucid intervals and relapses, but without permanent recovery. It rarely, however, progresses to the state of dementia. These patients are liable to transmit their disease to their offspring.

It is evident therefore that the forms of insanity which appear in such persons will differ in many respects from those already studied. They differ so widely that they have been grouped in a class which is called PSYCHICAL DEGENERATION. In this class, as in the class of psychoneuroses, there are several types to be studied.

Periodical Insanity.

Persons with nervous constitution are by no means free from the liability to the development of the psycho-neuroses. These usually tend to recovery, and rarely recur in a healthy person. But in a nervous individual they show a marked tendency to recur. Hence, in considering the insanities which present themselves in the physically degenerate, it is necessary to mention *periodical insanity*—a mental derangement of the form either of mania or of melancholia, or of an alternation of these two (circular insanity), which occurs in attacks at regular intervals from puberty throughout life, each interval being one of fair health, and each attack lasting only a few months. It is a remarkable fact that in each attack the hallucinations, illusions, imperative conceptions, delusions, and impulsive acts are identical in character in the same individual. The early attacks may be slight, and later ones severe. They are usually more sudden in onset and shorter in duration than the ordinary psycho-neuroses, and during the course the personality is usually completely changed. During the interval the patient is sane, yet presents numerous symptoms of nervous weakness. The interval may be months or even years. Occasionally the attacks occur with each menstruation. They are to be treated as already described, but the prognosis in such cases is much worse than in the psycho-neuroses.

Partial Degenerative Insanity.

In the class of nervous individuals who present the typical characteristics of physical degeneration, there are some who are peculiar for their very marked lack of self-control. Self-control, whether in respect to emotion, thought, or action, is the highest function of the mind, and its deficiency is universally regarded as evidence of mental instability. A man's character is largely dependent upon his power of self-control, a power which enables him to reject present pleasure as inferior to future gain, to exalt self-sacrifice at the expense of selfishness, and to suppress such instinctive acts as rage, conceit, or animal passions and appetites. Sane men vary greatly in the relative degree of self-control, so that much latitude is to be allowed in judging of its degree. But there are some persons in whom its deficiency

is so complete that they cannot be considered as exercising even a minimum amount, and these persons must be considered insane. The deficiency may not be attended by any marked defect in reasoning power, and does not lead to such delusions as appear in paranoia. Nor is it usually accompanied by any defect in self-consciousness. It is an evidence of degeneration in the mental sphere in some part of its domain, rarely in its entirety, and hence is termed *partial degenerative insanity*. It presents itself as a defect in emotional control (folie raisonnante), or in moral control (moral insanity), or in voluntary conduct (impulsive insanity—imperative acts).

(1) *Emotional insanity* (folie raisonnante) occurs chiefly in females of hysterical temperament, and is often associated with uterine disease. The patient shows evidences of bad temper, constant depression, and discontented, irritable, moody action. She has little energy, little courage, little happiness, and suffers constantly from mental distress and physical pain. The continued strain leads to occasional outbursts of temper, and to acts of rage and fury, which imply a total lack of self-control. In calmer moments she claims that she was unable to prevent these actions in spite of a knowledge of their evil character, that she had to do wrong, to act foolishly; and hence fears insanity. She may have attacks of anxiety as in melancholia—especially at menses. The attacks of excitement recur for years. They may be allayed by the use of morphine, but the danger of its habitual use is great in this class of persons.

(2) *Moral insanity* occurs in both sexes, and develops early in life. The patient appears to lack the ethical sense and, though taught the moral import of conduct, cannot grasp or retain moral ideas, and so fails to exercise that self-control over action which is necessary to morality. The distinction between right and wrong fails to appeal to such persons, the term "ought" has with them no force. Family affection, social restraints, the laws of decency, of decorum, of custom, are all disregarded, and they have no regard for truth. As children, these patients are incorrigible liars, mischievous to the point of villany, cruel, obscene, and destructive, the trial of their family and detested by acquaintances. As adults, they drift into crime of all kinds, and become vagabonds. At the same time the intellectual faculties may be keen in some directions, so that the patient may conceal or defend his evil actions, or contrive to escape their punishment. Sexual precocity and perversion are frequent in such persons. Such moral perversion occasionally appears only after some attack of mental disease. It is commonly associated with attacks of epilepsy. The ab-

sence of all sense of guilt, or penitence, or remorse, is a striking fact in moral insanity. It is termed by Krafft Ebing moral idiocy.

(3) *Impulsive insanity* is characterized by a lack of control over morbid impulses, so that the patient does impulsive acts without being able to arrest them.

The impulsive acts may be either the result of imperative ideas, or the outcome of a sudden impulse to action, both being primarily the products of irritation in a defective brain.

Imperative ideas are ideas which arise without recognized association with such force as to impel to action. The fear of being watched, the fear of walking in an open place, the question whether one has offended a friend, whether one has contracted some disease, may come upon the patient with such intensity as to lead to instant action, which is repeated again and again, no certainty being reached by the act (folie du doute). A patient of my own will return sixty or more times to feel whether she has turned out the gas before getting into bed. There may be an impulse to mathematical calculation, so that everything raises some problem, sets up a train of thought which must be gone through before anything else is done. Some patients incessantly ask questions without waiting for a reply.

Impulsive acts may be done without any clear reasoning process, the impulse coming suddenly, being perhaps resisted and then yielded to. Thus the impulse to steal, to drink, to burn, to kill, to jump off a car or from a height, may overcome all scruples and be carried out immediately, in spite of efforts to control it (kleptomania, dipsomania, pyromania, etc.). The impulse to suicide may lead to the act in spite of religious considerations and the natural love of life. These acts resemble the acts of post-hypnotic suggestion, which cannot be resisted. And these patients often show little sign of intellectual weakness.

It is evident that such cases can only be explained by the hypothesis that self-control is abnormally weakened, that a partial mental incapacity is present. This weakened state may be only temporary, especially at puberty or after great sexual excess, or it may manifest itself for years.

Paranoia.

Paranoia (Primäre Verrücktheit, Chronic Delusional Insanity, Monomania) *is a chronic mental derangement characterized by primary fixed systematized delusions which dominate, but do not impair, the intellectual processes.*—This form of insanity usually develops slowly in a person of nervous constitution, who is predisposed to insanity by an hereditary tendency, at the time of puberty or in youth, or in women at the menopause, and runs a chronic course.

Its chief characteristic is the development of a delusion. This is said to be *primary*, because it is not based upon any permanent emotional state or upon hallucinations, but seems to be a direct result of the disease. Patients in every land thus afflicted present the same kind of delusions. The delusion is said to be *fixed*, because it is constantly before the mind, is never forgotten, tinges every perception, leads to emotion and action, and dominates self-consciousness. The delusion is said to be *systematized*, because it is logically elaborated and brought into association with other thoughts and ideas, so that it causes a complete change of character and personality.

The delusion may be either a delusion of persecution or a delusion of grandeur. It usually has a basis in hypochondriacal notions. The natural limitations or the necessary restraints of a weak neurotic person lead to his falling behind his companions in the competition of life. His inferior power is the last thing which he will admit, and hence he seeks to explain his defeats by the hypothesis of hostile influences surrounding him. His friends have taken advantage of him, his family has suppressed him, strangers are imposing upon him. He brings into relation with this new idea many past occurrences which come to mind, and begins to look out for further evidences. The indifferent glance of a stranger in passing is noticed, and thought to be one of suspicion or of disdain. If two persons are seen talking he imagines that he is the subject of their conversation, or that one is pointing him out to the other for some bad purpose. The words of a sermon, or in a play, are supposed to be applied directly to him. And thus the self being ever prominent, the entire world appears to revolve about it. Each form of opposition to his efforts affords new proof of the enmity of those about him, and since so many persons appear to act with the same motive, it is natural to suppose that they are all in league against him. In some cases the conspiracy is thought to be

limited to the members of the patient's family, in others to a church ("the Jesuits"), or to a secret society ("Freemasons"), or to the government ("the police," "the administration"), or to some prominent organization ("the Academy of Sciences," "the doctors"); or, finally, it may be universal, including everyone knowing him, and many who are not acquainted with him, but who have been induced to join by his enemies. All sorts of motives are ascribed to these enemies, hatred, malice, but especially envy. And the latter idea once reached, leads soon to the delusion of grandeur. For, if he is thus persecuted it must be that he is important, that he has great powers which they dread, great wealth which they are unjustly depriving him of, great station which they prevent him from reaching, great spiritual insight which they wish to conceal from the world. It is but a step for him to persuade himself that he is really a noble, a king, a deity, the greatest of poets, or authors, or scientists, or inventors, the most remarkable man in the world. Hence follows a change of personality, it being impossible for such a highly-gifted being to have been an ordinary nervous man.

During the development of these delusions it is common to discover that hallucinations and illusions are occurring. Voices speak to him, forms appear to him, influences reach him by touch and taste, electricity acts upon him in an unknown manner, but perceptibly, and all confirm in one way or another the delusion, being brought into some relation with it whatever they may be.

The delusion influences his emotion, which is one of depression when the conspiracy seems to threaten him, or of great excitement, indignation, fear, terror, despair, when his enemies are on the point of triumph. The emotion changes with the delusion, and as his importance becomes prominent to his mind he feels hopeful, cheerful, proud, elevated, happy.

The delusion influences his conduct, for he may seek to evade his enemies by secluding himself, or may take vengeance on them by killing them, or may in despair commit suicide. The hallucinations may influence his action, he may obey the commands which he hears. At times the mental distress may lead to wild, uncontrollable excitement which is dangerous to those about him. When, however, he becomes proud and happy he shows his contempt for the rest of mankind by lofty bearing, by affected action which he thinks appropriate to his new personality.

His self-consciousness and power of attention and memory appear to be unaffected throughout, and he will talk quite freely of his birth-

place and family, though declaring in the next breath that he is a noble or God.

From time to time there may be remissions in the symptoms, so-called lucid intervals, when the delusion sinks into the background, or when he even speaks of it as an insane idea. But sooner or later it returns in full force, being taken up at the point where it was when the lucid interval began, and so continues throughout life. Krafft Ebing affirms that in five hundred cases he never saw a permanent recovery.

The variety of delusions which are found in different individuals is very great, and hence patients suffering from paranoia are not so easily grouped together as patients suffering from melancholia or dementia.

There are patients who have delusions founded upon abnormal bodily sensations, such as the delusion that an animal is living in the stomach, that the veins are full of steam, that the skin is made of glass. These partake of the character of hypochondriacal delusions, since they are erroneous explanations of ordinary sensations.

There are patients whose delusions are purely persecutory, without any tendency to develop into delusions of grandeur. Such patients are in constant fear of being poisoned, and frequently have to be fed, as they refuse all food. (Vergiftungswahn.) Others fear arrest and conceal themselves from their friends as well as from their supposed enemies. Others imagine that wherever they go someone is watching them, and influencing their physical condition by electricity or by some occult means; they invent all sorts of instruments to protect themselves, or finally take vengeance on their enemies. (Verfolgungswahn.)

There are patients who develop delusions of grandeur from the very beginning of the disease. They interpret the notice which they think others take of them as evidence that they are remarkable for beauty or for grace, or for some great ability, and thus at once begin to dwell upon their own importance and elaborate a delusion of their mighty power or great wealth. (Grossenwahn.) They claim to have made great attainments, and their failure to show evidence of these does not shake their confidence.

There are patients whose delusions of persecution lead to such a state of excitement that they desire legal revenge or legal protection, and are constantly appealing to the courts and obtaining the arrest of their supposed enemies, until the repetition of such baseless proceedings leads to the conclusion that they are insane. (Querulantenirrsein.)

There are patients who accuse themselves unjustly for many things, thinking that their subjective feelings are a punishment for their sins. Such self-accusatory delusions resemble those of melancholia, but are more fixed and elaborated.

There are patients who are easily impressed by what they hear or see about them, and copy the delusions of others. The so-called folie-à-deux, in which two members of a family show the same delusion, is to be explained by the weaker mind succumbing to the influence of the stronger. The epidemic insanities of the Middle Ages were of this character.

There are patients whose delusions are chiefly of a religious type; they have been religious enthusiasts, and all their interests have been limited to religious matters, when the occurrence of an hallucination leads to the delusion of inspiration. They find in the Bible passages which refer to themselves, they hear God speaking to them, they lie for hours in a state of religious ecstasy, and then declare that they have a mission, that they are sent to reform society, to preach the true religion, to save the race, to be the Messiah. (Examples: Joan of Arc, the Mahdi.) They become at last so offensive that they have to be sent to an asylum, where they remain under the firm conviction that they are martyrs.

There are patients whose delusions are erotic in character. They fall in love with some great person, prominent actress, or fashionable lady, and spend their time devising romantic situations, in following the object of their affections, finally persecuting him or her in many ways by attentions. Hallucinations occur which convince the patient that the affection is returned, and these lead to open acts, which in turn prove to others that confinement in an asylum is necessary, where a delusion of persecution not infrequently follows.

These various forms of delusion have led to many subdivisions of paranoia which need not be enumerated. They all have this in common, viz., a well-defined delusion, which is brought into relation with all the life and thought of the patient, and dominates his action; an intense egotistical feeling; a change of character, and even of personality.

A patient presenting these characteristics is a paranoiac, and may be assigned to a hypochondriacal, religious, erotic, or other class of paranoia, according to the arbitrary classification adopted. Some writers affirm that the disease may be congenital, signs of it appearing in childhood; and they distinguish such patients by the term originäre or congenital paranoia.

The only proper treatment of a paranoiac is confinement in an asylum, that he may be kept from excitement and from harm, and that society may be sure of immunity from sudden dangerous attacks. During lucid intervals a degree of freedom may be allowed, but always under observation, and under such restrictions that immediate return to the asylum may be secured when the delusion reappears. For this is the kind of patient who is a constant menace to society, history showing that attempts at assassination of prominent persons are made quite uniformly by paranoiacs.

The forms of insanity thus far studied are without any known organic basis of cerebral disease. They are ascribed to changes in the circulation or in the nutrition of the brain, or to congenital peculiarities of structure which interfere with the normal function of the cerebral cortex. There are, however, no constant pathological changes present in the brains of patients dying from any of these forms of insanity to which the symptoms can be ascribed. It is not impossible that future investigations may reveal the existence of pathological states not now known. But up to the present time the forms of insanity thus far considered must be regarded as being *without organic lesions.*

There are, however, some forms of insanity of which a pathological condition is known to be the cause. These therefore are termed *organic* insanities in distinction from those thus far studied. Insanity of this character may develop in a healthy person or in one who has a degenerate nervous system, under the excitement of certain physical causes. It runs a progressive course and during its duration it may be transmitted to one's offspring. Recovery may occur if the physical changes in the brain can be arrested, but this is seldom possible.

Organic insanity presents itself in several forms, all of which have many common and a few distinctive features. The mental changes in all are such as may be ascribed to a gradually increasing loss of function from destruction of the cortex, a progressive dementia. There is a dissolution of mind, beginning in the highest level, that of self-control, and gradually extending to all the functions. The removal of restraint at first leads to symptoms of mental excitement, but these are soon followed by symptoms of mental torpor, and the termination is one quite similar to that already studied as terminal dementia.

In the *insanity of chronic alcoholism* erotic fancies, numerous fearful hallucinations, and delusions of conjugal infidelity are the special symptoms associated with the progressive dementia.

In the *insanity of senility* undue suspicion of friends, lack of memory of recent events, and consequent impairment of judgment, great egotism, particular susceptibility to flattery, and delusions regarding financial matters, usually of poverty, or of conspiracy to obtain money are characteristic.

In the *insanity of cerebral syphilis* the mental symptoms are those of emotional excitement or depression, and of intellectual failure, but delusions and hallucinations rarely occur. The physical symptoms of gross lesions are usually found in these cases.

The most common form of organic insanity is *paretic dementia.*

Paretic Dementia.

Paretic Dementia (General paresis, General paralysis of the Insane, Dementia paralytica, Softening of the Brain) *is a chronic diffuse encephalitis, presenting mental, motor, vasomotor, and sensory symptoms, with progressive course and fatal termination.*

It begins very gradually, so that many cases are overlooked and others are considered as neurasthenia or dyspepsia for some months, there being present some of the symptoms of one or both of these diseases. After a time the friends of the patient begin to notice that he is not acting naturally, that he is unusually irritable or excitable, is offended or delighted at slight provocation, is variable in his moods, and appears at times inattentive, forgetful, and careless of proprieties. Soon it is found that his affairs are in confusion, his accounts not properly kept, and that it is impossible to keep his attention concentrated upon important business or upon any train of thought, so that his conversation becomes noticeably fragmentary. He cannot do his work and yet resents any interference with it, maintaining that he is perfectly well. His memory for recent occurrences then begins to fail, he neglects engagements. He disregards obligations, sleeps in company, loses his temper and uses bad language at home or in public, neglects his family, and, though previously moral in conduct, indulges in alcoholic and sexual excesses. By this time it is noticed that his speech is a little thick, indistinct and hesitating, and a fine tremor of the tongue and lips and possibly of the hands may be detected. The affection is one of fine co-ordinated movements—a cortical ataxia, rather than gross paralysis. The pupils are often unequal, or contracted, or dilated, and react very slowly to light.

During this period of invasion headache and sleeplessness are sometimes prominent symptoms and a gradual loss of weight goes on. From the outset restlessness is noticeable and after a time it seems impossible for the patient to keep quiet, he wants to take all kinds of exercise, to walk for miles, to go about even when exhausted by fatigue. His intellectual powers are notably weakened, he is no longer attentive, logical, self-controlled, cautious, or careful in conduct, and the change of character becomes apparent both to his family and to his acquaintances. This period of invasion varies from one to three years, and may be interrupted by periods of subsidence of many

of the symptoms. It usually goes on to the full development of the disease.

When paretic dementia is fully developed numerous symptoms present themselves—both mental and physical.

The power of sensory perception is not impaired, but the patient is often so preoccupied or indifferent that he does not notice fully or remember the subjects to which attention is directed. His mind passes rapidly from one thing to another and he does not perceive accurately anything. Thus a patient will forget that he has dined, or neglect to put on some of his clothes, will expose his person, or will commit openly small thefts, will make serious mistakes in his accounts or appointments, merely from a lack of careful perception and consequent impairment of memory. Illusions and hallucinations occur only toward the close of the disease and are followed by a marked loss of power of sensory perception when the dementia becomes extreme.

The power of logical thought is impaired very early. The patient shows impaired judgment from the outset, takes little notice of important matters, dwells upon trivial things, acts without consideration, and indulges in extravagant schemes, reckless expenditures, and excesses of many kinds which his better judgment would condemn. He may become exceedingly immoral, all restraints of society, religion, and morality being wholly neglected. He becomes profane, obscene, and tipsy. He very frequently develops a delusion of grandeur, says that he never was so well in his life, believes that he is the strongest, the brightest, the most powerful, the most wealthy of men. And he acts at times in accordance with his delusion, undertaking the most extravagant and impossible schemes without any regard for his actual circumstances. Yet his delusions are not carried out fully in his actions and he mixes ordinary affairs with them in an incongruous manner. The delusion is not as fixed or as systematized as in paranoia. The development of such a delusion is a sure sign, in Meynert's opinion, that an atrophy of the brain has begun.

His emotional state is unstable. He has little control over its manifestations, can be moved to tears or to laughter in the course of an ordinary conversation, can be excited or depressed by suggestions. He is sometimes depressed for days, and feels discomfort, but does not blame himself, and in the midst of the depression may become excited. He is usually sanguine and hopeful, and his emotion is usually in accordance with his delusion, one of exaltation. At times or on provocation the excitement may become maniacal, and outbursts of rage or of frenzy are not infrequent in the course of the

disease. Hence a paretic dement is never a harmless member of society but requires to be watched. He rarely shows any tendency to suicide.

Voluntary action and conduct are affected from the outset; indeed it is by changes in conduct that the change in thought and character are chiefly betrayed, and the weak logical power made manifest. Inconsistency is evident in speech and conduct. Acts are done without consideration; thus impulsive acts, such as stealing, forgery, enormous expenditures, even murder may be performed under sudden excitement or under the influence of the delusion, or in a fit of frenzy. All the ordinary restraints to conduct seem to be removed, and instinct rather than morality is the guide, self-control being greatly weakened.

Consciousness appears to be very imperfect. The patient does not appreciate the inconsistency between his previous personality and his present acts; he does not notice the growing anxiety of his family; he regards with indifference loss of means, or even his confinement in an asylum; he is usually so engaged in his imaginary undertakings under the influence of his delusion that he is contented wherever he is. His personality may be changed, and he may imagine himself a prince, a millionaire, a deity. Gradually the consciousness becomes obscured, he recollects little regarding his illness and as the deeper dementia ensues he becomes indifferent, dull, stupid, and finally almost unconscious. In the final condition of dementia all mental action is suspended.

The physical symptoms are as marked as the mental symptoms.

Motor disturbances appear early. There is restlessness, a tendency to be in constant motion. The patient takes long walks or rides, indulges in unusual exercise, wishes to be going out to theatres every night, to visit friends all the time, and is not content to lead an ordinary quiet life, as before his illness. He has a sense of physical power and is eager to show his strength, though this may really be impaired. He is very talkative, discussing subjects of which he knows little—or talking at random. Tremor of the muscles appears early, first in the tongue, then in the face and hands, and finally any motion is attended with some trembling. This tremor is followed by incoordination, which shows itself in thickness and indistinctness of speech, in irregularity of handwriting, in clumsiness in handling things, and an awkward, unsteady, stumbling gait. The facial expression becomes blank and inane—no appearance of thought or interest being manifest, but when he talks an excessive play of facial expression is noticeable.

Paresis soon shows itself, and progresses, until in the final stage there is total paralysis, with increased reflex action and loss of all control over bladder and rectum. Finally speech may become impossible.

In the course of the disease epileptiform attacks, attacks of sudden loss of consciousness without convulsions, and attacks of monoplegia or hemiplegia, temporary or permanent, often occur.

Vasomotor disturbances are also present. The face flushes or pales frequently, there are sudden attacks of vertigo and of headache, and of feeling of fulness in the head, the pulse is usually slow, large, and of low tension. In the late stages venous congestions in various organs are found.

Sensory symptoms are less marked than motor symptoms, but as the disease advances anæsthesia or analgesia of the limbs may be found, especially in connection with hemiplegia.

In the last stage trophic disturbances occur, for in the stupid, dirty, helpless state of the patient cleanliness is difficult and the liability to bed-sores and to cystitis is great.

Some cases are complicated by the development of spinal sclerosis, either in the form of posterior or of lateral sclerosis with its attendant symptoms, and in a few cases the paresis follows the spinal disease.

It is evident that the mental and physical symptoms are very numerous. Many cases show only some of them; others present all the symptoms during the course. In some cases the mental symptoms appear early and are more prominent throughout than the physical symptoms; in other cases the reverse is observed. A few cases begin with epileptiform attacks. The course of the disease is slowly progressive. Its average duration is about three years, though rapid cases may terminate within a year, and some are known to have lasted five or six years. The patients die of exhaustion or of some complicating disease such as cystitis, or pneumonia, or obstruction of the bowels.

Pathology.—The disease begins with changes in the vessels, hyperæmia of the pia and small cortical vessels, increase of nuclei in the vessel walls, occasional stasis in the capillaries, and exudation of serum into the lymph-spaces. As it increases a formation of fusiform dilatations of the vessels, and the development of fibrils of connective tissue between the vessel walls and the surrounding neuroglia occurs. In the neuroglia at the same time a marked increase of the nucleated cells with numerous branching processes is in progress, numerous spider-cells developing throughout the cortex, around the vessels and lymph-spaces, and about the nerve-cells. This increase of neuroglia

goes on rapidly, producing a diffuse sclerosis of the cortex which is followed by retraction of the tissue, leading to atrophic shrinking. The entire brain takes part to a lesser degree in this process. In the cerebral tissue at the same time there is in progress a degeneration of the finest nerve-fibrillæ, and of the branching processes of the nerve-cells; and also a swelling, hyaline or fatty degeneration, vacuolization, pigmentation, and final atrophy of the cell-bodies, and the formation of cystic cavities throughout both gray and white matter.

The final result of these pathological processes in the vessels, neuroglia, and cerebral substance is a gradual atrophy of the brain, so that it weighs much less than normal, it appears shrunken, the convolutions being narrow and the sulci open; the brain-tissue is hard, pale, friable, pigmented, and on the summit of the convolutions adherent to the pia, which is opaque and thickened. A thickened condition of the ependyma of the ventricles is uniformly found. There is usually an increase of fluid within the ventricles and beneath the pia. As a complication the lesions of pachymeningitis with hæmatoma are not infrequently present. All of the changes in the cortex are more marked in the frontal lobes and about the Sylvian fissures. In many cases the lesions of posterior or of lateral sclerosis are found in the spinal cord.

Etiology.—The disease occurs between the ages of thirty-five and fifty-five, in males chiefly, after alcoholic or sexual excesses, great emotional shock, or severe mental strain, and in a large proportion of cases in syphilitic patients. Chronic pachymeningitis or multiple cerebral sclerosis may give rise to a very similar train of symptoms.

Treatment.—In the early stage general tonic treatment, combined with hydrotherapy, and the continuous use of ergot is recommended. In syphilitic cases antispecific treatment should be tried. For states of excitement, bromide, chloral, paraldehyde or sulphonal, physostigma, or morphine may be used. The absolute abstinence from alcohol should be enforced. In the later stages nothing can arrest the disease, and home or asylum care is necessary.

Classification of Mental Diseases.

A. Mental Diseases without Organic Lesions.
  I. Psychoneuroses, in healthy brain.
    1. Melancholia.
      a, simple.
      b, with delusions.
      c, with agitation.
      d, with stupor.
    2. Mania.
      a, simple.
      b, with frenzy.
    3. Confusional Insanity.
    4. Stuporous Insanity.
      a, simple. Primary dementia.
      b, with periods of ecstasy. Katatonia.
    5. Terminal Dementia.
  II. Psychical Degeneration, in weak brain
    1. Periodical Psychoneuroses.
    2. Partial Degenerative Insanity.
      a, emotional. Hysterical.
      b, moral.
      c, impulsive.
    3. Paranoia.
B. Mental Diseases with Organic Lesions.
    1. Alcoholic Insanity.
    2. Senile Dementia.
    3. Syphilitic Dementia.
    4. Paretic Dementia.
C. Mental Defects with Maldeveloped Brain.
    1. Imbecility.
    2. Idiocy.

The Causes of Insanity.

Insanity is rarely if ever due to a single cause; it is usually the effect of a series of causes acting through a considerable period of time and brought to a culmination by some comparatively insignificant event. It is therefore necessary to consider both the predisposing and exciting causes of insanity.

The predisposing causes of insanity may be divided into two groups, the general tendencies which affect the race and the special tendencies which affect particular individuals.

Among the *general tendencies* the most potent is the struggle for existence incident upon the increasing competition in civilized communities. As a country becomes more densely populated, as people gather in cities, as interests widen and responsibilities grow heavy, as the distracting elements of life increase, as greater effort and more intense energy become necessary to success, and as temptations to vicious indulgence multiply, so the ratio of insane to sane steadily rises. In the United States the ratio was 1 to 1,310 in 1860, 1 to 1,030 in 1870, and 1 in 545 in 1880, and in New York State 1 to 374 in 1890. In cities the ratio is much higher than in the country. Out of 16,000 insane in New York State in 1890, 7,500 were in New York city and Brooklyn asylums.

Race and climate appear to have little to do with the development of insanity. This is true in spite of the fact that in the United States nearly one-third of the insane are foreigners, though but one-seventh of the population is foreign. The sexes are about equally liable, though the census of 1880 shows that the ratio of men to women insane in this country was as 100 to 109. Insanity is a disease of adult life, by far the larger number of cases occurring between twenty-five and thirty-five years in women, and between thirty-five and fifty in men.

Among the *special tendencies* to insanity affecting individuals heredity must be considered the most potent. In nearly three-quarters of all the insane cases observed the world over some hereditary taint can be discovered. This hereditary tendency may be derived from near or distant relatives, and the disease in the ancestor may have been insanity, or some nervous disease of organic or of functional, or of toxic (alcoholic) origin.

Next to heredity comes a neuropathic constitution as a predisposing cause of insanity. This has been already noticed in discussing psychical degeneration. An unduly sensitive or a weak nervous system succumbs more easily to the exciting causes of insanity than a strong one, and is subjected to undue strain even by the physiological changes occurring at periods during life.

Another predisposing cause is improper education and training. The urging to overwork which produces "precocious children," the foolish indulgence which produces "spoiled children," the deficient tact and cruelty which produces "repressed children," all imperfect educational methods which hinder an harmonious development of mental traits and fail to develop character act as predisposing causes to insanity.

Lastly, the occurrence of one attack of mental disease predisposes to a second attack.

The *exciting causes of insanity* are partly psychical and partly physical. Emotional shock, intense grief or anxiety, sudden joy, continued worry, undue sympathy, or long-continued intense intellectual effort kept up under a strain are the most common psychical causes. Severe exhausting diseases of any kind, injuries and inflammatory diseases of the brain, continued neuroses, especially epilepsy, sexual excesses, chiefly masturbation, the nervous strain of childbirth and the menopause, sunstroke, the abuse of alcohol, opium or other drugs, are the most common physical causes. There are but few cases of acute insanity in which a history cannot be obtained of some illness impairing the strength and producing anæmia. In a small proportion of the cases, however, no cause can be ascertained.

The following were the chief causes assigned for insanity out of 1,400 cases admitted to New York State asylums during 1890:

Alcoholism, 253; Emotional strain, 247; Ill health, 163; Masturbation, 81; Old age, 80; Overwork, 78; Epilepsy, 74; Heredity, 59; Childbirth, 42; Traumatism, 41; Menopause, 38; Sunstroke, 29; Syphilis, 22; Abuse of Drugs, 22.—*Second Report State Com. in Lunacy.*

The Prognosis in Insanity.

The popular idea that the insane are incurable is erroneous.

By far the larger number of those who become insane suffer from the psychoneuroses, and in these forms of insanity over sixty per cent. recover. The incurable cases belong to the class of psychical degenerations, but, even in these, lucid intervals of apparent recovery of some duration may occur. The organic insanities rarely recover, and do not present long intermissions, but go on rapidly to death.

The longer the disease lasts the less likely is it to pass away. Thus, of the cases which recover, sixty per cent. get well within the first six months and twenty-five per cent. within the second six months. There is always hope until dementia appears.

The more sudden the onset of the insanity the better the prognosis. Thus the insanity of childbirth usually passes away.

The younger the patient the better the prognosis. Thus a melancholia developing in old age has a bad prognosis.

The symptoms which should make one dread an incurable course are persistent mental confusion with loss of memory, disregard for decency, impulsive acts, and the development of fixed and systematized delusions; convulsions or paralysis, and a great improvement in weight and physical condition unattended by mental recovery.

If proper precautions are taken to avoid exposure to the causes which have produced the first attack a second attack may be averted, but asylum statistics show that a quarter of the patients who are discharged recovered return insane after a time.

Those who have been insane should not be allowed to marry, unless the insanity was of the form of a psychoneurosis and five years have elapsed without a return.

The Diagnosis of Insanity.

Difficulties in the diagnosis of insanity usually disappear as the knowledge of a case becomes more complete, and if all the facts, both positive and negative, are ascertainable, a conclusion should not be difficult in any case.

In the investigation of a person whose sanity is suspected, it is necessary to obtain a full history of the patient before seeing him, and to ascertain what particular evidences of a change of disposition or of character have been noticed by his friends. In obtaining this history the following facts should be elicited :

(1) The hereditary tendencies of the patient.

(2) His life history up to the time when insanity was suspected.

(*a*) During childhood were nervous symptoms noticed ?

(*b*) At puberty were eccentricities remarked ?

(*c*) In adult life were his keenness of perception, intelligence, and character, disposition and self-control, occupation, habits, and actions those of a normal person, the relative social, intellectual, and moral status of the individual being considered ?

(3) The psychical or physical events which have been thought to lead up to the present state. To what stress has he been exposed ?

(4) What evidences in his appearance, manner, habits, or actions have led to a suspicion of insanity ?

These facts must be obtained from relatives or friends, and will determine whether an examination is warranted, and will give a clue to the form of insanity present, to the particular points to be ascertained at the examination, and to the manner of proceeding to that examination.

For from these facts it will be evident whether the patient is undoubtedly insane, or probably insane, or possibly insane ; whether direct approach and direct questioning as a physician will enable you to detect his mental symptoms better than to make his acquaintance without his knowledge that he is being examined.

In every case where it is possible the physician should examine the patient as a physician, so as to be able to ask such questions as only a physician is warranted in asking.

The examiner should observe the facial expression, posture, man-

ner of action, dress, character of speech, handwriting, and physical power of the patient, and during the conversation notice the mental capacity as displayed by his memory of events, continuity and activity of thought, logical flow of ideas, and emotional state. It is better to question him regarding physical symptoms and during this investigation to estimate the mental condition. For a discussion of the reasons for the insomnia, or dyspepsia, or palpitation, or pain, or disturbance of sensation complained of frequently elicits explanations which betray the existence of delusions or of hallucinations, and a little display of curiosity as to these will lead to their full recital. Never show any knowledge of a patient's delusion excepting such as he himself gives you; let him talk about it without interruption, if he will; and never let him suppose that you doubt his statements or suspect the possibility of his explanation of facts. The delusion is a real belief to him, and incredulity on your part merely awakens his hostility. A thorough medical examination alone may so command his respect and awaken his confidence that he will open the subject which is before his mind. If not, some discussion of his occupations or plans, of his family relations and business interests, of the possibility of a vacation or of travel may lead up to the delusion, or may betray peculiar lines of thought and views of life. It is well to talk with a patient both alone and in the presence of members of his family to observe whether his relations with them are natural.

There is never any difficulty in eliciting the symptoms of the psychoneuroses by such a direct examination, and their diagnosis is easy. In many cases of psychical degeneration, especially in paranoia with delusions of persecution, the patient will allude at once to his enemies and their designs upon him. In many cases of paretic dementia the delusions of grandeur will be easily reached from the boastful assertions regarding the patient's health. And in all forms of dementia the mental incapacity will be apparent.

In the examination it is well to bear in mind that the condition of (*a*) conscious perception, (*b*) logical thought, (*c*) emotional control, (*d*) volition, conduct, and self-control, and (*e*) personality are each to be investigated, all possible disturbances being watched for; and that in almost every case of insanity physical symptoms are present as well as mental changes.

The chief difference between a physical and a mental examination is that in the latter an estimate must be reached by an indirect method, for no man's statements regarding his own mental processes are to be accepted. The mental process must be judged by the obser-

vation of his mind in action. To warrant a diagnosis of insanity marked quantitative or distinct qualitative changes in previous mental action must be ascertained. Thus demonstrative changes of mood in a reserved man mean more than in an hysterical woman, and unusual wit in a dull man or extravagance in a miser are suspicious. The admission of hallucinations, delusions, or morbid impulses is very important.

There are some patients in the early stages of paranoia or of paretic dementia who are aware of the fact that their conduct has awakened suspicion, and who are on their guard under any examination, and careful not to betray any evidences of insanity. They are fearful of commitment to an asylum, and they refuse to see a physician, either maintaining that they are perfectly well, or asserting that their anxious friends are their worst enemies, and that the physician is in league with them. It may be evident from the history that the patient has symptoms of insanity, or it may be possible that his actions are those of a sane man who is really being persecuted. Yet in such cases it may be necessary for the patient's good to determine the question of his sanity, in order to prevent reckless extravagance, or in order to protect individuals from unjust or violent accusations, or in order to guard against suicide. Under these circumstances a meeting between the patient and the physician may be brought about by friends, and thus, without revealing his identity, the physician may estimate the patient's mental condition. Such a method is attended by difficulties, and is not always successful, and requires much tact and skill, that the real motive may be concealed. For a man justly resents such an attempt to deceive him, and the circumstances prevent the physician from entering upon many subjects which he may desire to know.

If such an attempt is made the physician should be in possession of all the facts regarding the patient's mental condition, so as to so adapt his method of procedure to the patient's personality as to elicit the necessary evidence of his delusion, or of his change of character, and several attempts may be necessary before a conclusion can be reached. It is necessary to refuse to make a diagnosis, or to be party to a commitment, when any interpretation of the history and of the facts observed leaves a doubt in the mind as to the insanity of the individual. And it is always to be remembered that a harmony between the facts of the history and the facts observed must be established before an opinion can be reached. Thus a history of melancholia and the signs of paretic dementia cannot be harmonized; if the

examination points to paranoia, but investigation fails to reveal any history of psychical degeneration ; or if there is a history of degeneration but the observation reveals no physical or mental signs of it a lack of harmony is evident. It is to be remembered that one symptom is insufficient to warrant a diagnosis, and that insanity has a typical course and is a nervous disease with adequate causes.

After the facts and the history have been fully ascertained, the diagnosis as to the form of insanity present is not often difficult when the characteristic features of the various forms are remembered.

There are some persons who desire to be considered insane in order that they may escape punishment for crime. The simulation of insanity is difficult, for there must be in real insanity a harmony between the many disturbances of mental action, and a typical course. In any suspected case long-continued watching will usually produce evidences of deception.

There are some criminals who are manifestly insane. Thus (1) when a man is incapable of distinguishing right from wrong in reference to a particular act, as in idiocy, imbecility, dementia, acute mania ; or (2) when a man is acting under an insane delusion as to circumstances which if true would relieve the act of responsibility, or where his reasoning powers are so depraved as to make the commission of the particular act the natural consequence of the delusion, as in chronic mania or melancholia, or in paranoia ; or (3) when a man is forced by a morbid and irresistible impulse to do a particular act, as in psychical degenerative states—the law allows the plea of insanity.

There are other cases which are doubtful. But when a man has a bad heredity, has been exposed to exciting causes of insanity, has developed an acute psychoneurosis and recovered, or has been eccentric or deficient mentally, or has shown previous symptoms of mental disease and at the time of the crime presents other symptoms and physical signs, and when the act of which he is accused was without motive, was not conducted with ordinary care and not followed, by ordinary precautions to escape detection, or was either freely confessed or utterly denied with apparent ignorance, and gives rise to an honest remorse, there is a presumption in favor of his insanity. But if a man is acquitted of crime because he is insane the law ought to enforce his immediate confinement in an asylum.

Asylum Commitment.

Patients can be committed to an asylum in New York State only by physicians who have qualified before a Judge of a Court of Record as Commissioners in Lunacy. Any physician can so qualify after he has been in practice three years by appearing before the Judge with two certificates from two Commissioners, known to the judge, certifying to his capacity. His certificate must be filed with the State Commission in Lunacy.

In order to commit a patient two Commissioners in Lunacy must examine him, independently or together, and must make out a certificate upon a legal blank furnished by the State Commission in Lunacy, in which certificate it is necessary to give full particulars regarding the case, stating the date of the attack, whether it was sudden or gradual in onset, the bodily condition of the patient, whether he is epileptic, whether he is filthy or cleanly in dress and appearance, whether he is violent, dangerous, destructive, excited or depressed, homicidal or suicidal, what is the supposed cause, whether he has insane relatives, what his habits are, what he said and did before the examiners, what his appearance and manner were, and what facts bearing upon his insanity were ascertained.

This certificate is signed and sworn to by the two physicians together before a Judge of a Court of Record of the county in which the lunatic resides and the Judge may take other proof or make inquiry before approving the certificate, or may call a jury to decide the question of lunacy.

When the certificate is signed by the Judge, the patient may be removed to the asylum by his friends, who have a right to call upon the police if needed to assist in the removal.

When the patient has recovered he can be discharged by the head of the asylum. He can be transferred to another asylum by request of his friends at any time during his illness without new papers. If he escapes and is gone a month new papers are necessary for his recommitment.